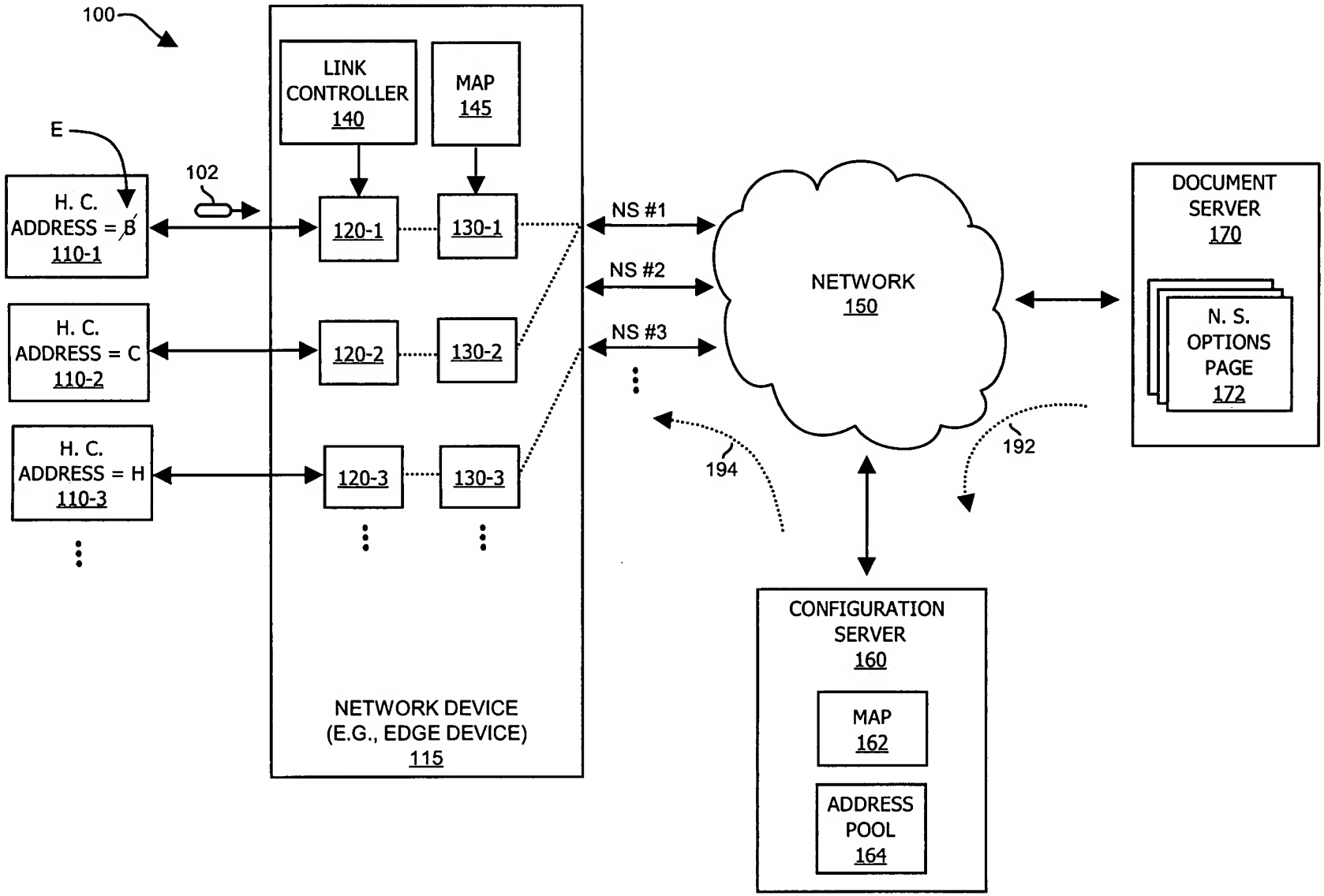
100
LINK CONTROLLER 140
MAP 145
E
102
H. C. ADDRESS = B 110-1
H. C. ADDRESS = C 110-2
H. C. ADDRESS = H 110-3
120-1
130-1
120-2
130-2
120-3
130-3
NS #1
NS #2
NS #3
NETWORK 150
DOCUMENT SERVER 170
N. S. OPTIONS PAGE 172
194
192
CONFIGURATION SERVER 160
MAP 162
ADDRESS POOL 164
NETWORK DEVICE (E.G., EDGE DEVICE) 115

FIG. 1

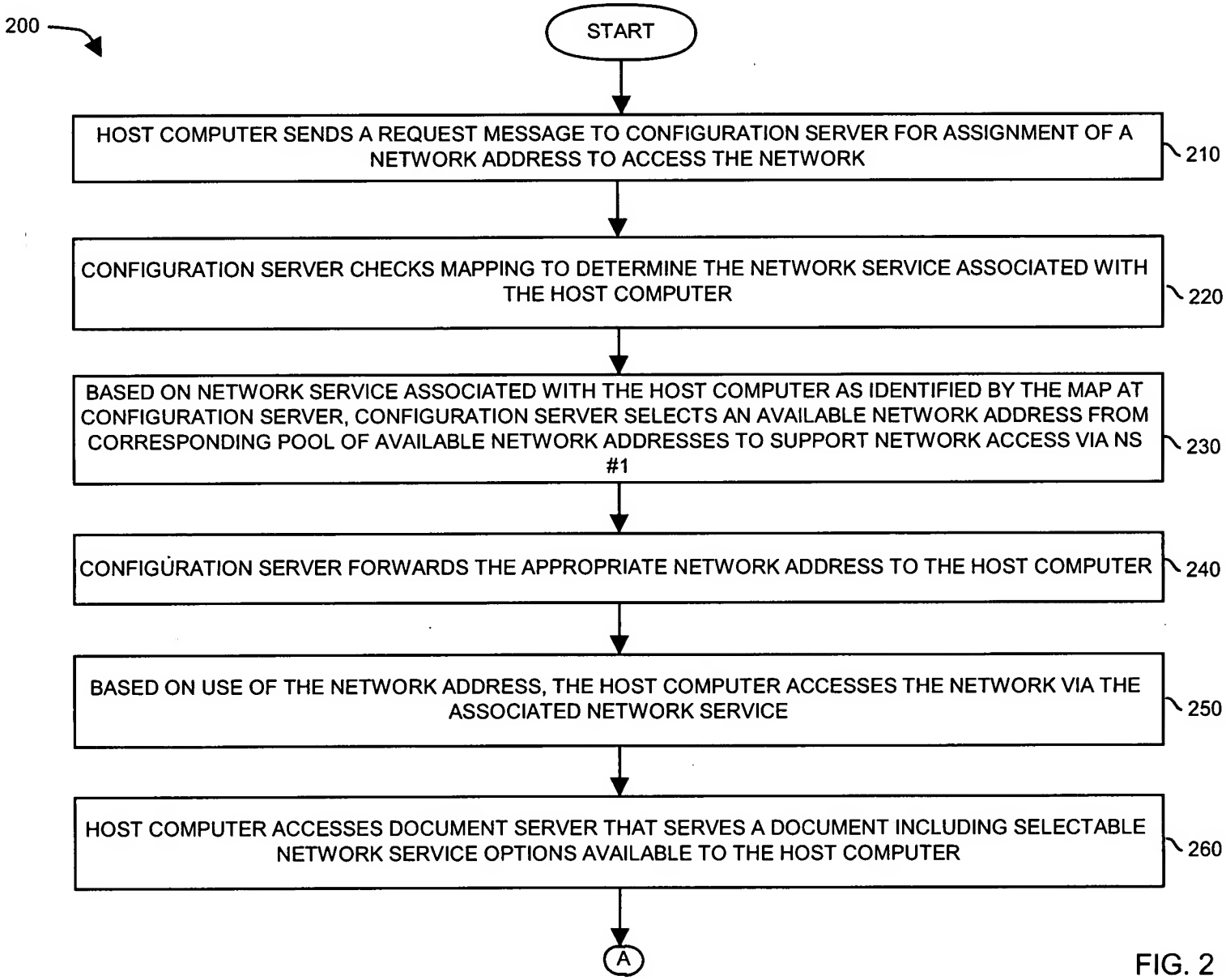
200
START
HOST COMPUTER SENDS A REQUEST MESSAGE TO CONFIGURATION SERVER FOR ASSIGNMENT OF A NETWORK ADDRESS TO ACCESS THE NETWORK
210
CONFIGURATION SERVER CHECKS MAPPING TO DETERMINE THE NETWORK SERVICE ASSOCIATED WITH THE HOST COMPUTER
220
BASED ON NETWORK SERVICE ASSOCIATED WITH THE HOST COMPUTER AS IDENTIFIED BY THE MAP AT CONFIGURATION SERVER, CONFIGURATION SERVER SELECTS AN AVAILABLE NETWORK ADDRESS FROM CORRESPONDING POOL OF AVAILABLE NETWORK ADDRESSES TO SUPPORT NETWORK ACCESS VIA NS #1
230
CONFIGURATION SERVER FORWARDS THE APPROPRIATE NETWORK ADDRESS TO THE HOST COMPUTER
240
BASED ON USE OF THE NETWORK ADDRESS, THE HOST COMPUTER ACCESSES THE NETWORK VIA THE ASSOCIATED NETWORK SERVICE
250
HOST COMPUTER ACCESSES DOCUMENT SERVER THAT SERVES A DOCUMENT INCLUDING SELECTABLE NETWORK SERVICE OPTIONS AVAILABLE TO THE HOST COMPUTER
260
A

FIG. 2

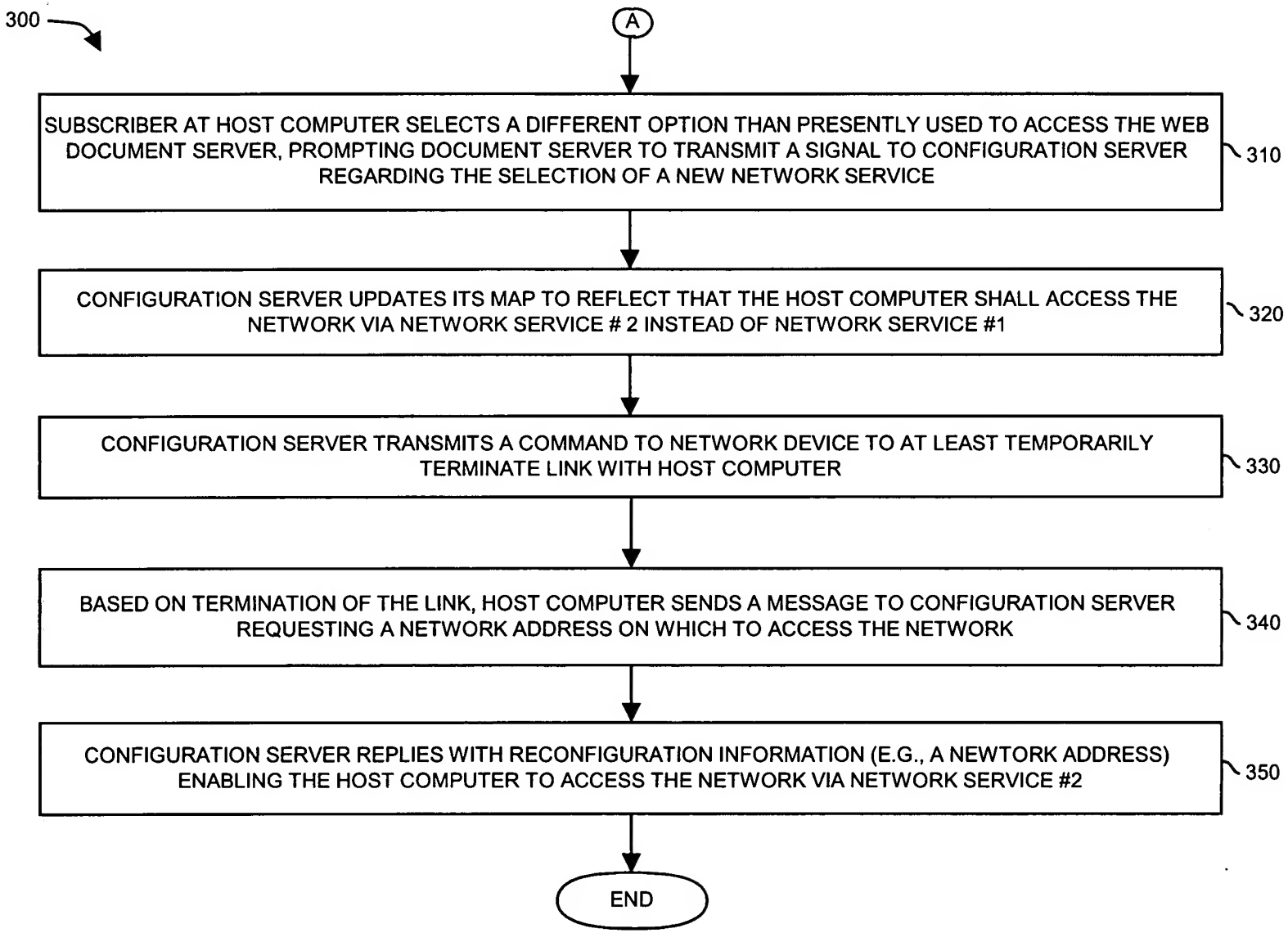
300
A
SUBSCRIBER AT HOST COMPUTER SELECTS A DIFFERENT OPTION THAN PRESENTLY USED TO ACCESS THE WEB DOCUMENT SERVER, PROMPTING DOCUMENT SERVER TO TRANSMIT A SIGNAL TO CONFIGURATION SERVER REGARDING THE SELECTION OF A NEW NETWORK SERVICE
310
CONFIGURATION SERVER UPDATES ITS MAP TO REFLECT THAT THE HOST COMPUTER SHALL ACCESS THE NETWORK VIA NETWORK SERVICE # 2 INSTEAD OF NETWORK SERVICE #1
320
CONFIGURATION SERVER TRANSMITS A COMMAND TO NETWORK DEVICE TO AT LEAST TEMPORARILY TERMINATE LINK WITH HOST COMPUTER
330
BASED ON TERMINATION OF THE LINK, HOST COMPUTER SENDS A MESSAGE TO CONFIGURATION SERVER REQUESTING A NETWORK ADDRESS ON WHICH TO ACCESS THE NETWORK
340
CONFIGURATION SERVER REPLIES WITH RECONFIGURATION INFORMATION (E.G., A NEWTORK ADDRESS) ENABLING THE HOST COMPUTER TO ACCESS THE NETWORK VIA NETWORK SERVICE #2
350
END

FIG. 3

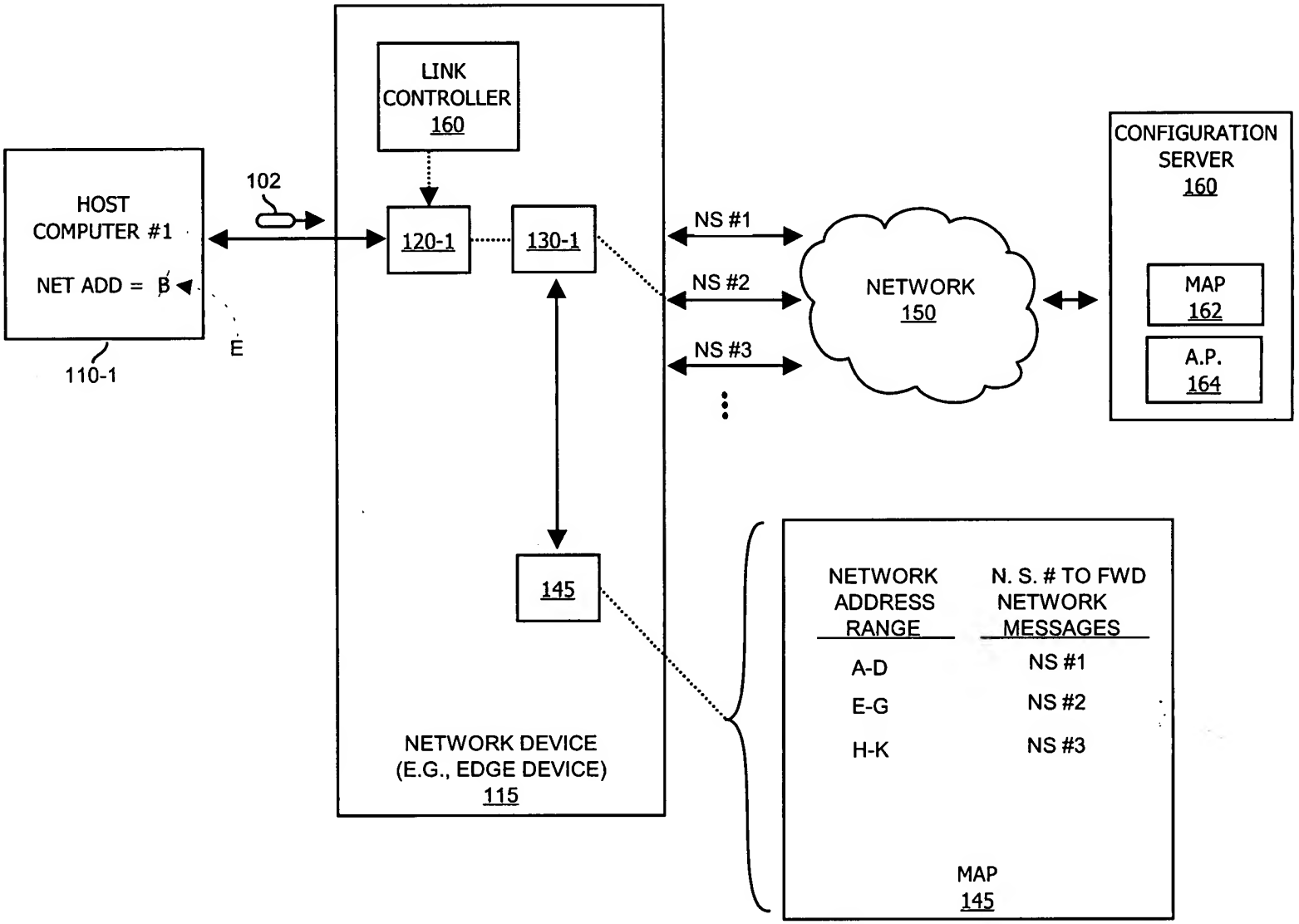
LINK CONTROLLER 160
HOST COMPUTER #1
NET ADD = β
110-1
102
E
120-1
130-1
145
NS #1
NS #2
NS #3
NETWORK 150
CONFIGURATION SERVER 160
MAP 162
A.P. 164
NETWORK DEVICE (E.G., EDGE DEVICE) 115
NETWORK ADDRESS RANGE
N. S. # TO FWD NETWORK MESSAGES
A-D
E-G
H-K
NS #1
NS #2
NS #3
MAP 145

FIG. 4

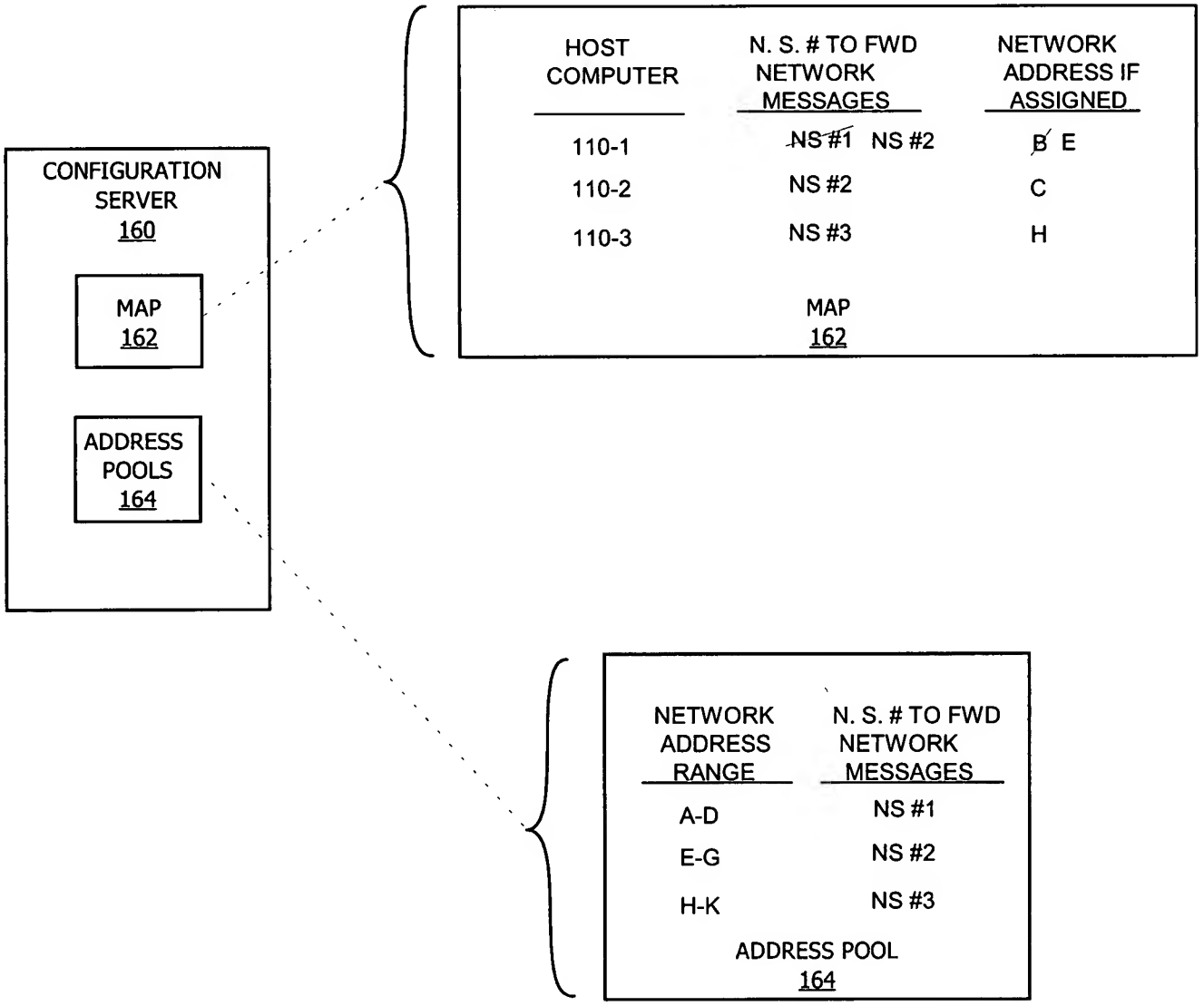
CONFIGURATION SERVER 160
MAP 162
ADDRESS POOLS 164
HOST COMPUTER
N. S. # TO FWD NETWORK MESSAGES
NETWORK ADDRESS IF ASSIGNED
110-1
NS #1 NS #2
B E
110-2
NS #2
C
110-3
NS #3
H
MAP 162
NETWORK ADDRESS RANGE
N. S. # TO FWD NETWORK MESSAGES
A-D
NS #1
E-G
NS #2
H-K
NS #3
ADDRESS POOL 164

FIG. 5

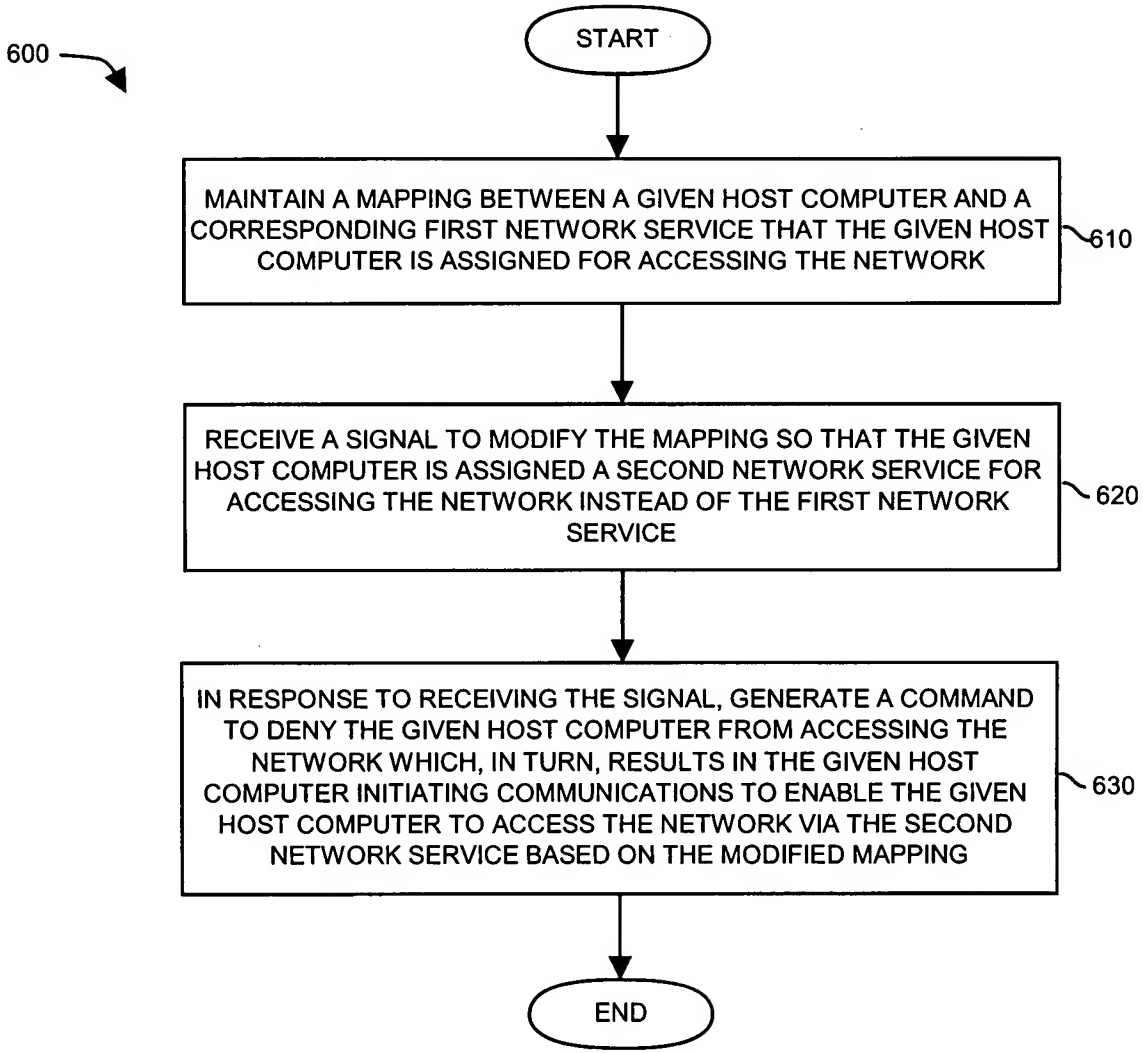
600
START
MAINTAIN A MAPPING BETWEEN A GIVEN HOST COMPUTER AND A CORRESPONDING FIRST NETWORK SERVICE THAT THE GIVEN HOST COMPUTER IS ASSIGNED FOR ACCESSING THE NETWORK
610
RECEIVE A SIGNAL TO MODIFY THE MAPPING SO THAT THE GIVEN HOST COMPUTER IS ASSIGNED A SECOND NETWORK SERVICE FOR ACCESSING THE NETWORK INSTEAD OF THE FIRST NETWORK SERVICE
620
IN RESPONSE TO RECEIVING THE SIGNAL, GENERATE A COMMAND TO DENY THE GIVEN HOST COMPUTER FROM ACCESSING THE NETWORK WHICH, IN TURN, RESULTS IN THE GIVEN HOST COMPUTER INITIATING COMMUNICATIONS TO ENABLE THE GIVEN HOST COMPUTER TO ACCESS THE NETWORK VIA THE SECOND NETWORK SERVICE BASED ON THE MODIFIED MAPPING
630
END

FIG. 6

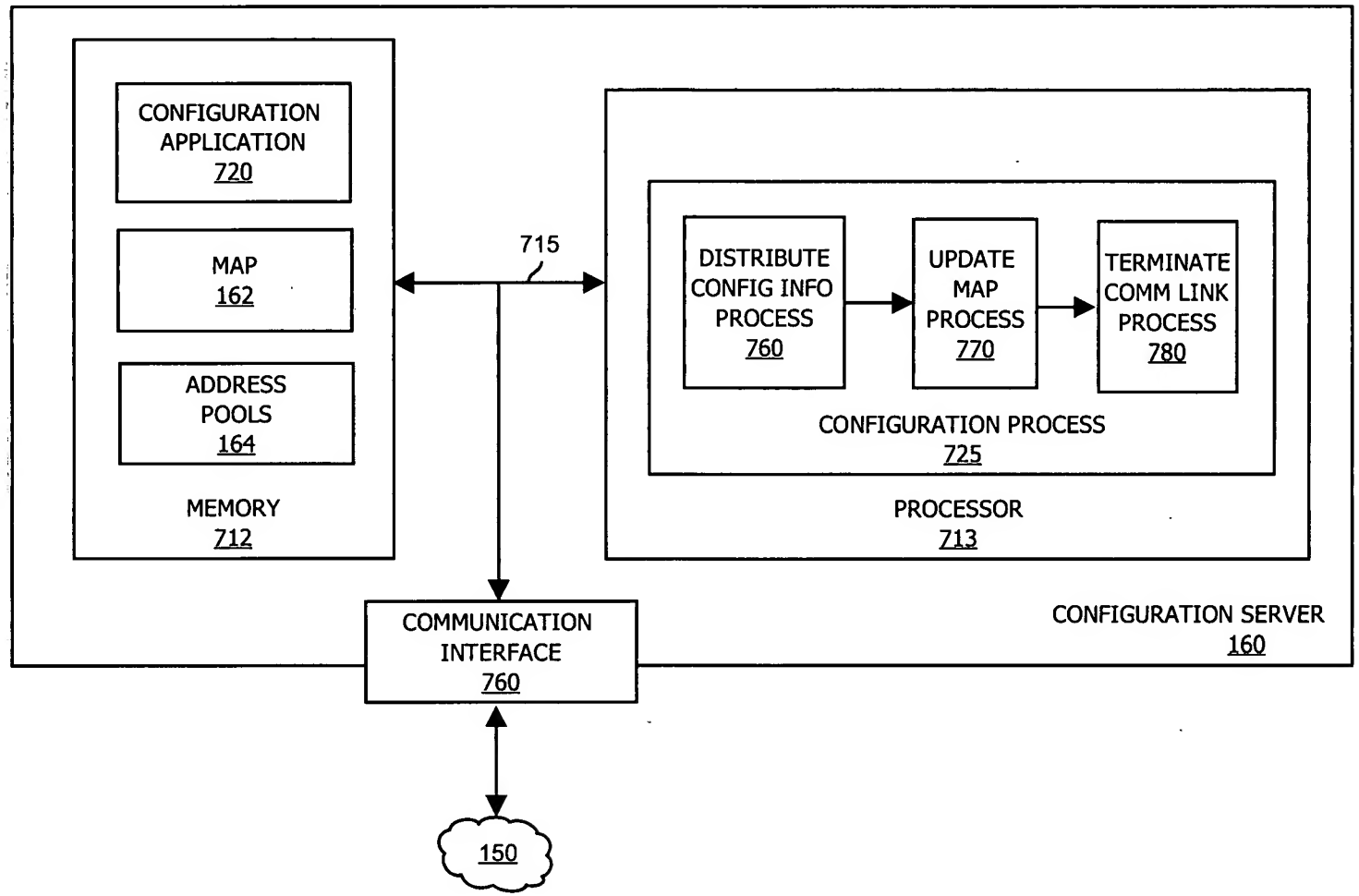
CONFIGURATION APPLICATION 720
MAP 162
ADDRESS POOLS 164
MEMORY 712
715
DISTRIBUTE CONFIG INFO PROCESS 760
UPDATE MAP PROCESS 770
TERMINATE COMM LINK PROCESS 780
CONFIGURATION PROCESS 725
PROCESSOR 713
COMMUNICATION INTERFACE 760
CONFIGURATION SERVER 160
150

FIG. 7

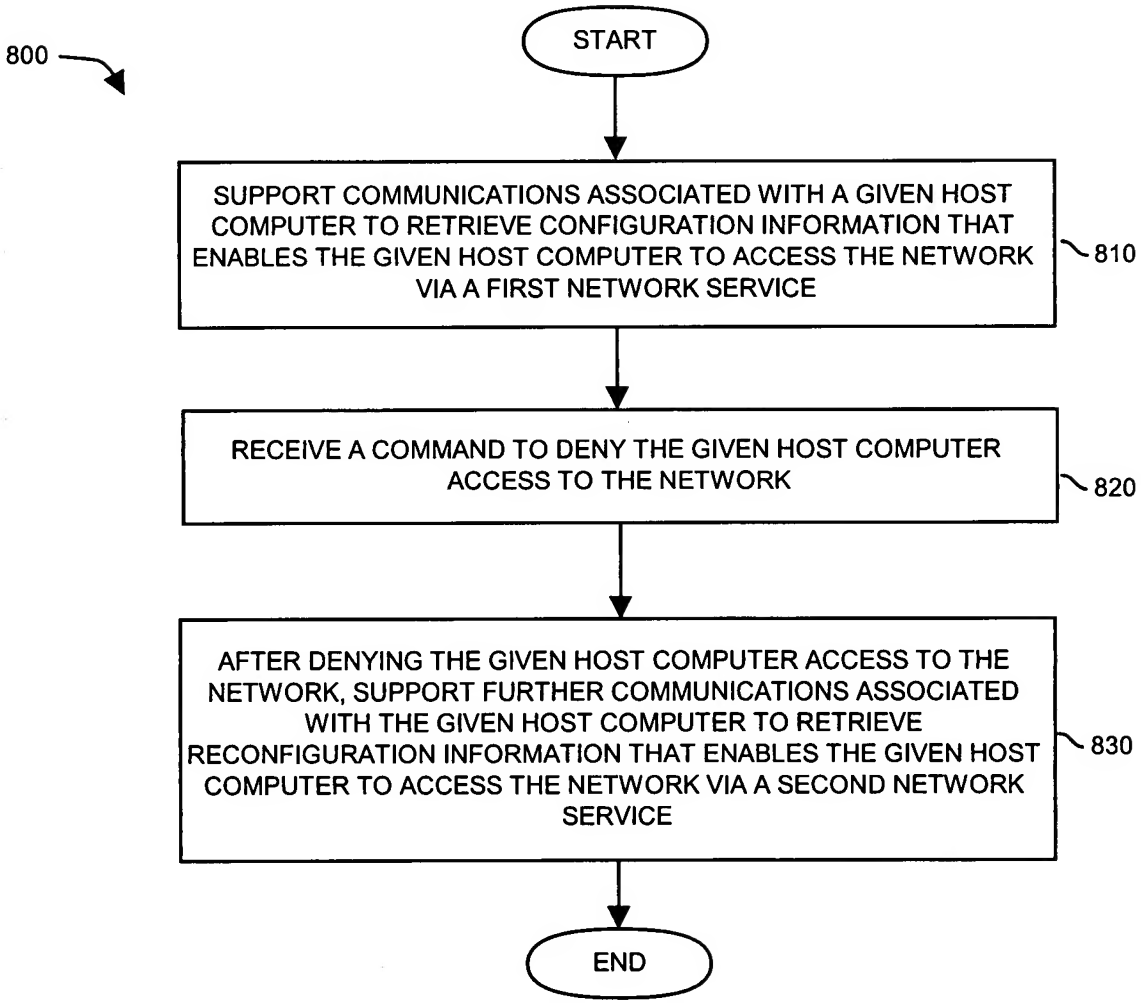
800
START
SUPPORT COMMUNICATIONS ASSOCIATED WITH A GIVEN HOST COMPUTER TO RETRIEVE CONFIGURATION INFORMATION THAT ENABLES THE GIVEN HOST COMPUTER TO ACCESS THE NETWORK VIA A FIRST NETWORK SERVICE
810
RECEIVE A COMMAND TO DENY THE GIVEN HOST COMPUTER ACCESS TO THE NETWORK
820
AFTER DENYING THE GIVEN HOST COMPUTER ACCESS TO THE NETWORK, SUPPORT FURTHER COMMUNICATIONS ASSOCIATED WITH THE GIVEN HOST COMPUTER TO RETRIEVE RECONFIGURATION INFORMATION THAT ENABLES THE GIVEN HOST COMPUTER TO ACCESS THE NETWORK VIA A SECOND NETWORK SERVICE
830
END

FIG. 8

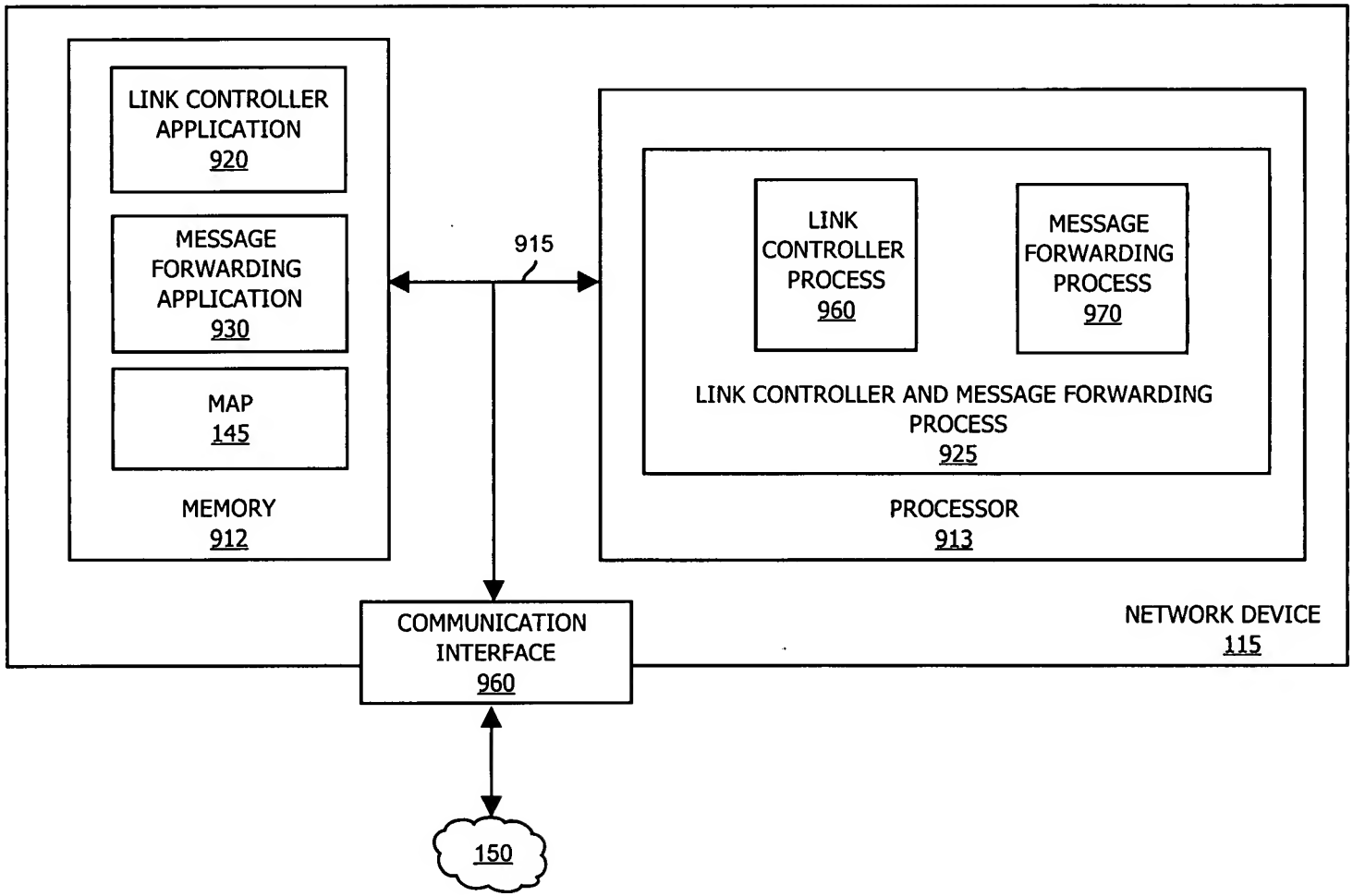
LINK CONTROLLER APPLICATION 920
MESSAGE FORWARDING APPLICATION 930
MAP 145
MEMORY 912
915
LINK CONTROLLER PROCESS 960
MESSAGE FORWARDING PROCESS 970
LINK CONTROLLER AND MESSAGE FORWARDING PROCESS 925
PROCESSOR 913
COMMUNICATION INTERFACE 960
NETWORK DEVICE 115
150

FIG. 9

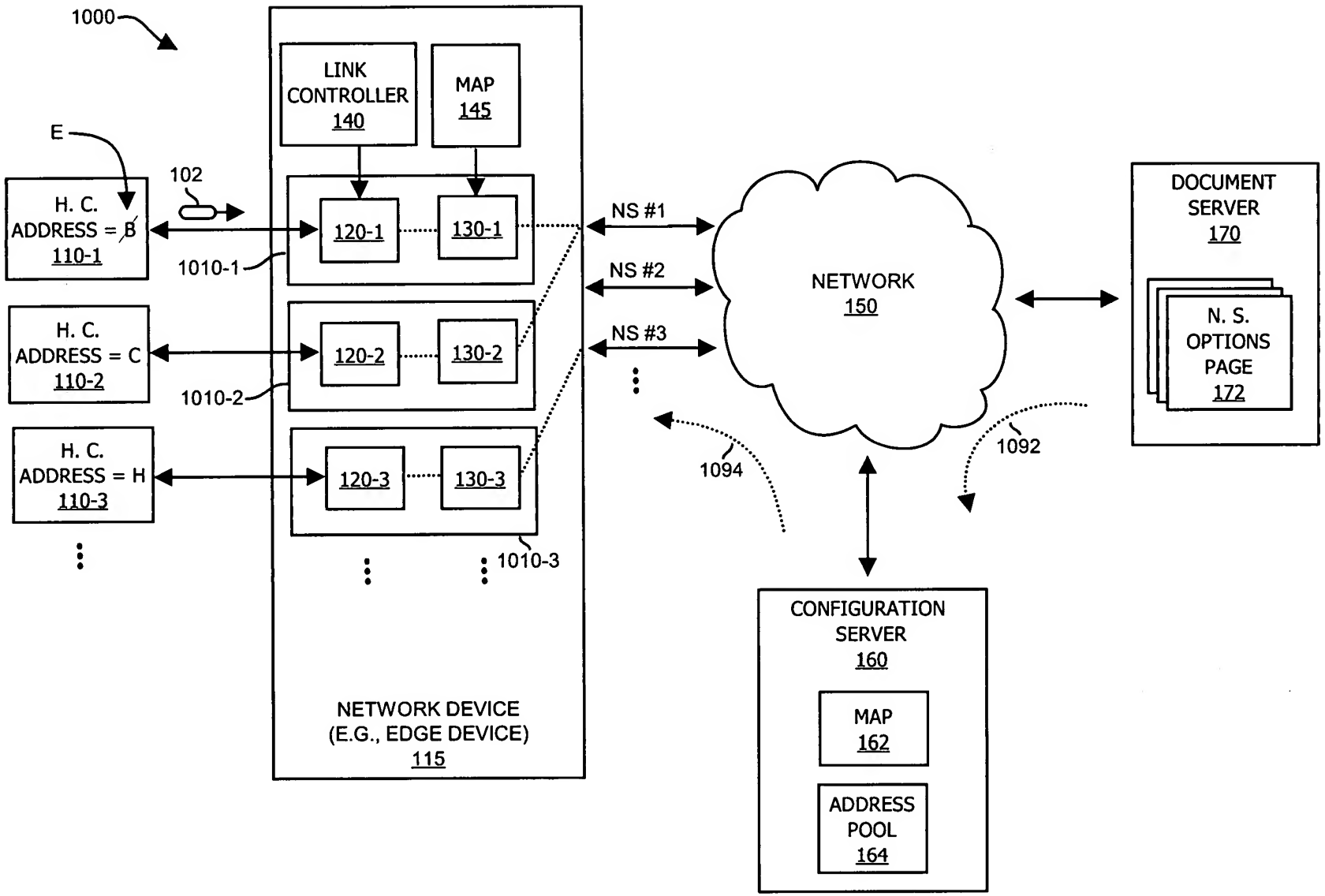
1000
LINK CONTROLLER 140
MAP 145
E
102
H. C. ADDRESS = B 110-1
1010-1
120-1
130-1
H. C. ADDRESS = C 110-2
1010-2
120-2
130-2
H. C. ADDRESS = H 110-3
120-3
130-3
1010-3
NETWORK DEVICE (E.G., EDGE DEVICE) 115
NS #1
NS #2
NS #3
NETWORK 150
1094
1092
DOCUMENT SERVER 170
N. S. OPTIONS PAGE 172
CONFIGURATION SERVER 160
MAP 162
ADDRESS POOL 164

FIG. 10

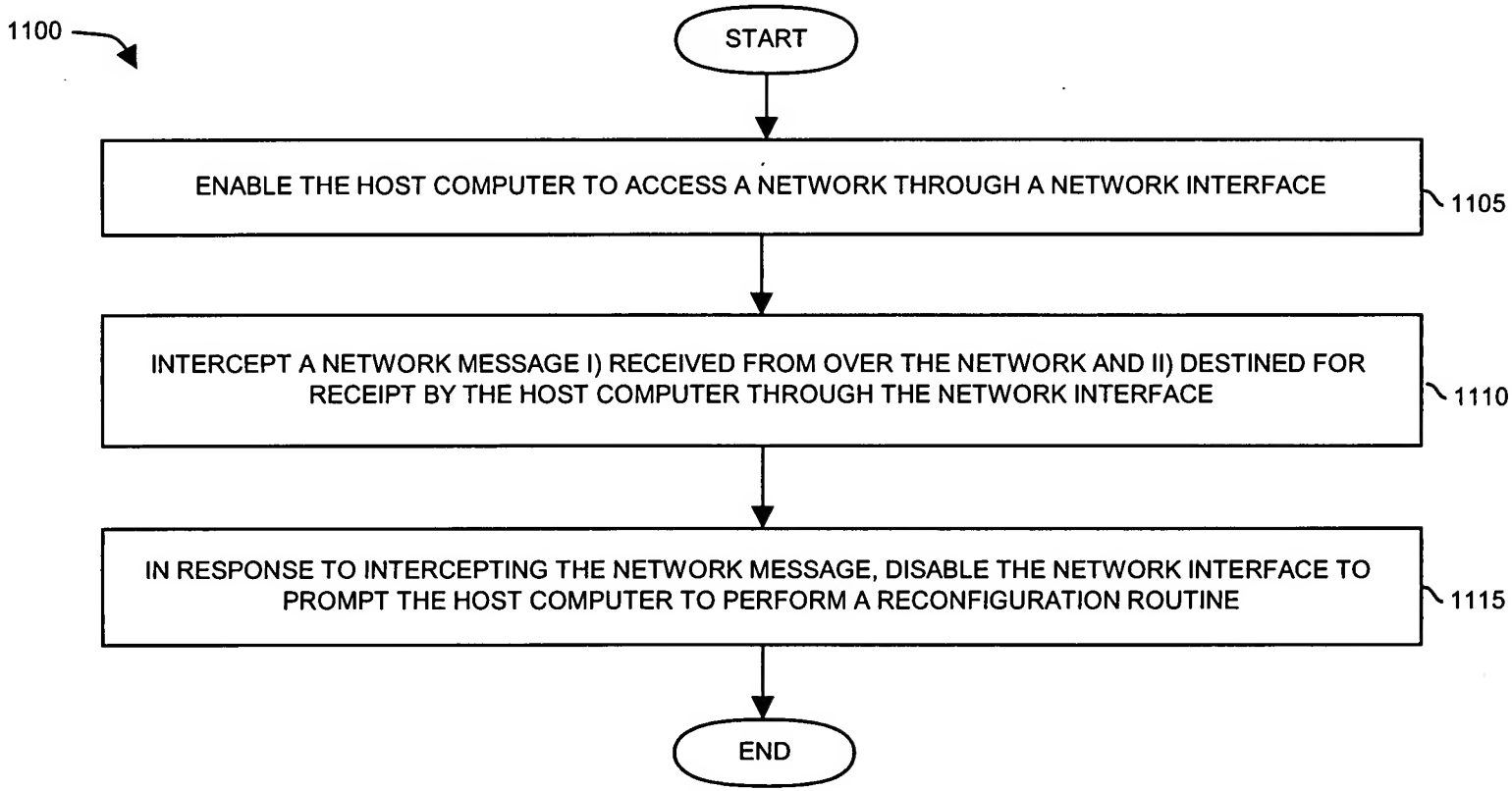
1100
START
ENABLE THE HOST COMPUTER TO ACCESS A NETWORK THROUGH A NETWORK INTERFACE
1105
INTERCEPT A NETWORK MESSAGE I) RECEIVED FROM OVER THE NETWORK AND II) DESTINED FOR RECEIPT BY THE HOST COMPUTER THROUGH THE NETWORK INTERFACE
1110
IN RESPONSE TO INTERCEPTING THE NETWORK MESSAGE, DISABLE THE NETWORK INTERFACE TO PROMPT THE HOST COMPUTER TO PERFORM A RECONFIGURATION ROUTINE
1115
END

FIG. 11

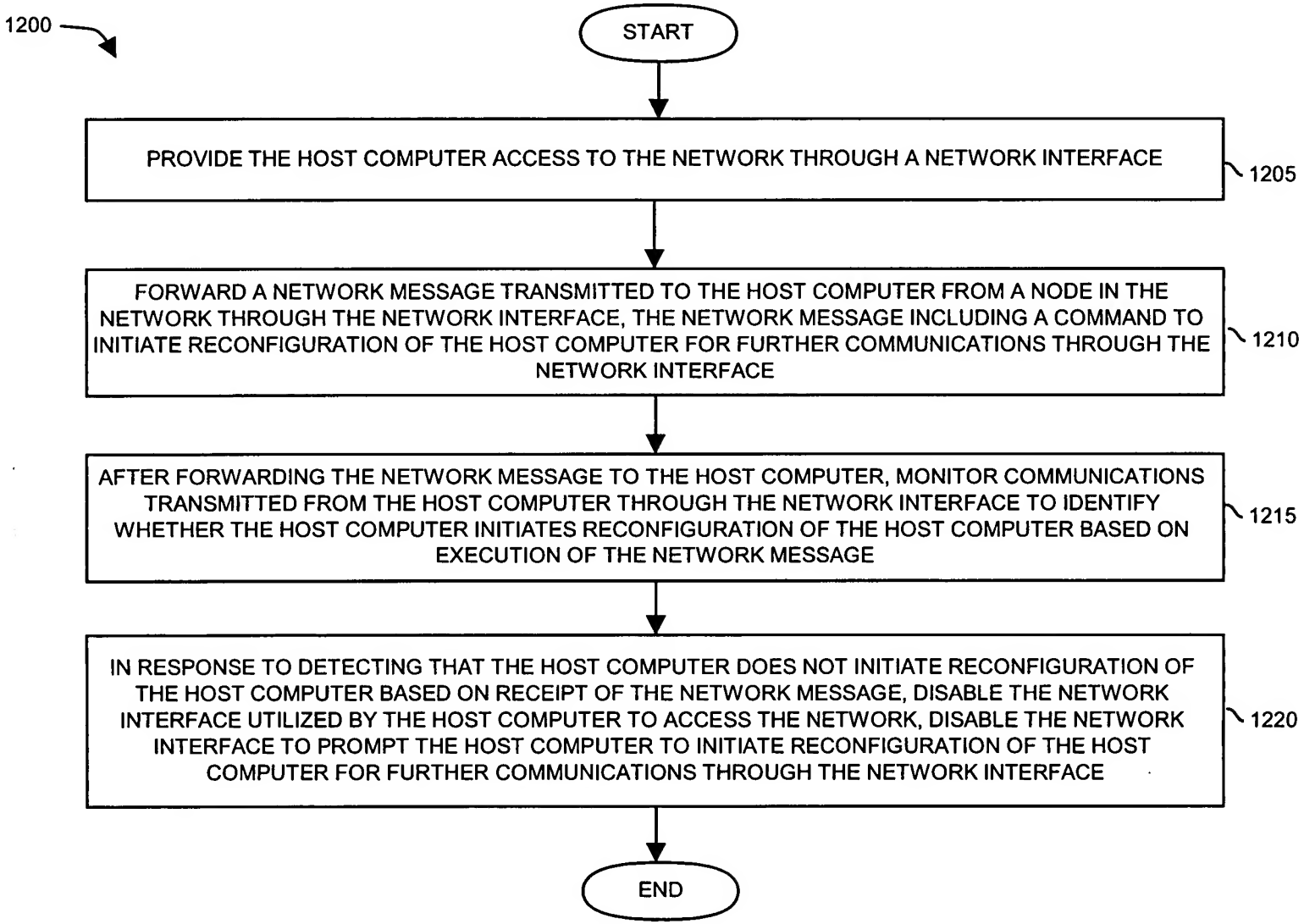
1200
START
PROVIDE THE HOST COMPUTER ACCESS TO THE NETWORK THROUGH A NETWORK INTERFACE
1205
FORWARD A NETWORK MESSAGE TRANSMITTED TO THE HOST COMPUTER FROM A NODE IN THE NETWORK THROUGH THE NETWORK INTERFACE, THE NETWORK MESSAGE INCLUDING A COMMAND TO INITIATE RECONFIGURATION OF THE HOST COMPUTER FOR FURTHER COMMUNICATIONS THROUGH THE NETWORK INTERFACE
1210
AFTER FORWARDING THE NETWORK MESSAGE TO THE HOST COMPUTER, MONITOR COMMUNICATIONS TRANSMITTED FROM THE HOST COMPUTER THROUGH THE NETWORK INTERFACE TO IDENTIFY WHETHER THE HOST COMPUTER INITIATES RECONFIGURATION OF THE HOST COMPUTER BASED ON EXECUTION OF THE NETWORK MESSAGE
1215
IN RESPONSE TO DETECTING THAT THE HOST COMPUTER DOES NOT INITIATE RECONFIGURATION OF THE HOST COMPUTER BASED ON RECEIPT OF THE NETWORK MESSAGE, DISABLE THE NETWORK INTERFACE UTILIZED BY THE HOST COMPUTER TO ACCESS THE NETWORK, DISABLE THE NETWORK INTERFACE TO PROMPT THE HOST COMPUTER TO INITIATE RECONFIGURATION OF THE HOST COMPUTER FOR FURTHER COMMUNICATIONS THROUGH THE NETWORK INTERFACE
1220
END

FIG. 12

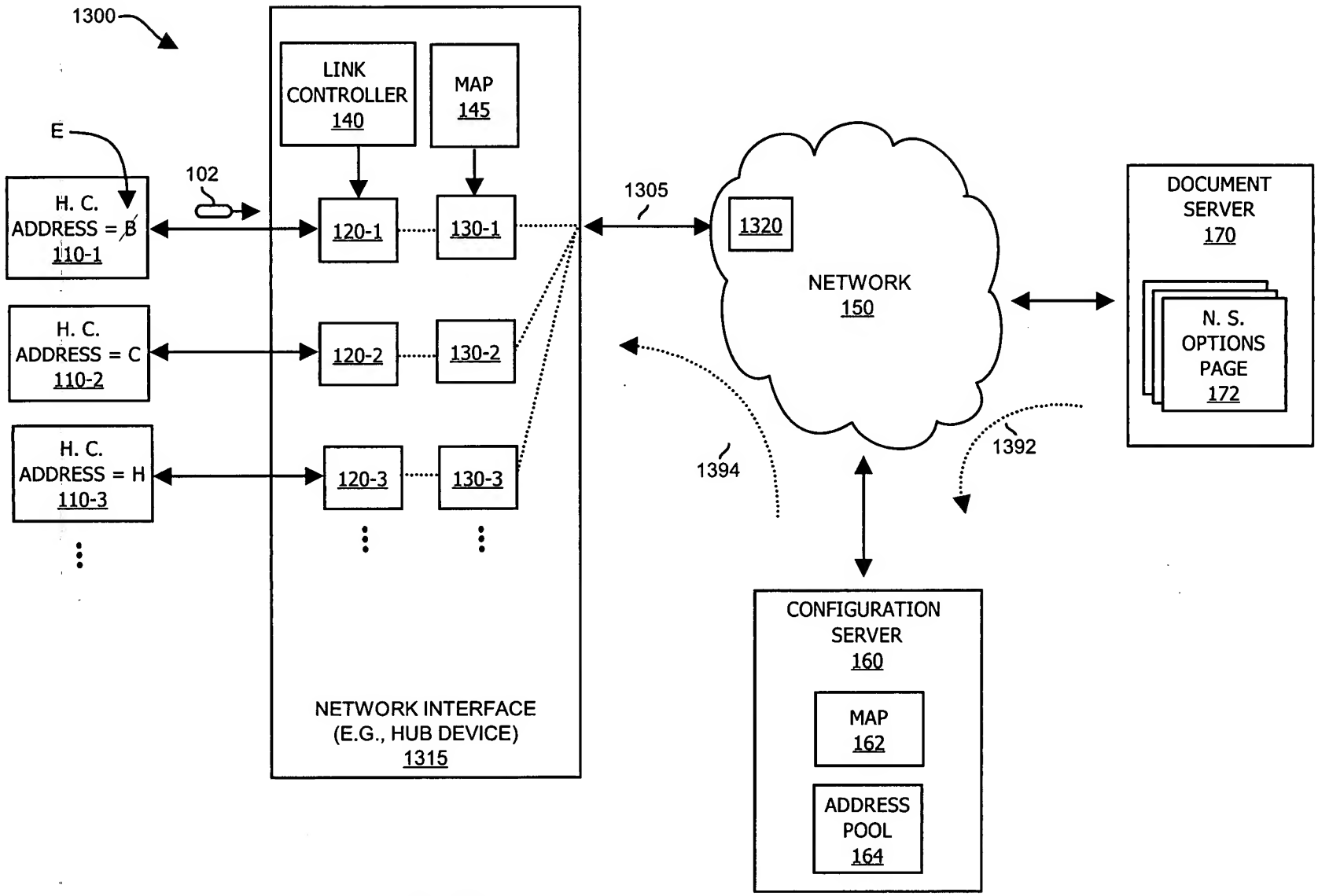
1300
LINK CONTROLLER 140
MAP 145
E
102
H. C. ADDRESS = B 110-1
H. C. ADDRESS = C 110-2
H. C. ADDRESS = H 110-3
120-1
130-1
120-2
130-2
120-3
130-3
1305
1320
NETWORK 150
DOCUMENT SERVER 170
N. S. OPTIONS PAGE 172
1394
1392
CONFIGURATION SERVER 160
MAP 162
ADDRESS POOL 164
NETWORK INTERFACE (E.G., HUB DEVICE) 1315

FIG. 13